Amendment Under 37 C.F.R. § 1.111

Serial No.: 10/705,233

Sughrue Ref: Q78419

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the

application:

LISTING OF CLAIMS:

Claim 1 (currently amended): A ferrule attached to a terminal of an optical fiber, the

ferrule comprising:

a main body, formed with a hole into which a core wire of the optical fiber is inserted

a positioning member, monolithically formed with the main body to place the optical

fiber in such a position that a clearance is formed between a deepest portion of the hole and a

leading end of the core wire; and

a leading end portion, integrated monolithically formed with the main body to serve as a

convex lens such that light emitted from a-the core wire of the optical fiber is made to be parallel

light, while incident light is focused onto the core wire.

Claim 2 (currently amended): A ferrule attached to a terminal of an optical fiber, the

ferrule comprising:

a main body, formed with a hole into which a core wire of the optical fiber is inserted;

a positioning member, monolithically formed with the main body to place the optical

fiber in such a position that a clearance is formed between a deepest portion of the hole and a

leading end of the core wire; and

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a convex lens, integrated with a leading end of the main body such that light emitted from a-the core wire of the optical fiber is made to be parallel light, while incident light is focused onto the core wire.

Claim 3 (original): The ferrule as set forth in claim 1, wherein at least the leading end portion is comprised of optically transparent resin.

Claim 4 (currently amended): The ferrule as set forth in claim 1, wherein:

the main body is formed with a hole into which the core wire is inserted such that a

clearance is formed between a deepest portion of the hole and a leading end of the core wire; and
the clearance is filled with filler such that the clearance serves as a light guide path.

Claim 5 (original): The ferrule as set forth in claim 4, wherein the filler is comprised of adhesive for fixing the optical fiber in the hole.

Claim 6 (original): The ferrule as set forth in claim 5, wherein a refractive index of the adhesive is selected so as to be greater than a refractive index of a material forming the leading end portion, and so as to have a refractive index difference corresponding to a numerical aperture of the core wire.

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Claim 7 (original): The ferrule as set forth in claim 4, wherein the filler is comprised of an optically transparent gel.

Claim 8 (original): The ferrule as set forth in claim 7, wherein a refractive index of the gel is selected so as to be greater than a refractive index of a material forming the leading end portion, and so as to have a refractive index difference corresponding to a numerical aperture of the core wire.

Claim 9 (original): An optical coupling structure, comprising:

a coupler, formed with a hollow portion in which leading end portions of ferrules each set forth in claim 1 are opposed to each other.

Claim 10 (original): An optical coupling structure, comprising:

a coupler, formed with a hollow portion in which leading end portions of ferrules each set forth in claim 2 are opposed to each other.